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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,117	07/20/2001	Takanori Saeki	NEC G226	1670

7590

10/31/2002

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EXAMINER

NGUYEN, LINH M

ART UNIT

PAPER NUMBER

2816

DATE MAILED: 10/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/910,117

Applicant(s)

SAEKI, TAKANORI

Examiner

Linh M. Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 August 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,28,29,31 and 33-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 33-35 is/are allowed.
- 6) ☒ Claim(s) 1,28,29 and 31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 28 August 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) Z.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### DETAILED ACTION

This is a reply to the Applicant's amendment submitted on 8/28/2002.

Claims 1, 28-29, 31, and 33-35 are now presented in the instant application.

#### *Drawings*

1. The drawing correction submitted on 8/28/2002 has been approved by the Examiner.

#### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1, 28, and 31 are rejected under 35 U.S.C. 102(e) as being anticipated by Shieh et al. (U.S. Patent No. 6,323,705).

With respect to claims 1 and 28, Shieh et al. discloses, in Figures 2 and 4, a clock control circuit and a corresponding control method comprising means for generating and outputting an output clock having a phase relative to a reference clock [CLKIN] by adding or subtracting to or from the phase by a predetermined unit value of a phase differential on each clock cycle of the reference clock, which is an input clock or a clock derived from the input clock.

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With respect to claim 31, Shieh et al. discloses, in Figures 2 and 4, that the unit phase difference is variably set by a control signal [Q].

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shieh et al. (U.S. Patent No. 6,323,705) in view of Tanis et al. (U.S. Patent No. 5,258,724).

With respect to claim 29, Shieh et al. discloses all of the claimed limitations, as expressly recited in claim 28, except for specifying that the output clock of a frequency corresponding to a non-integer frequency with respect to the frequency of the reference clock can be outputted. Tanis et al. discloses, in figure 2, a fractional division synthesizer comprising a fractional (or non-integer) divider, which is inherently capable of outputting the output clock of a frequency corresponding to a non-integer frequency with respect to the frequency of the reference clock. To implement a fractional divider fed with the input (reference) clock or the output clock of the circuit of Shieh et al. to obtain high frequency resolution would have been obvious to one of ordinary skills in the art at the time of the invention since such a configuration would provide finer resolution than integer dividers, which has been a well-known practice in the art as evidenced by the teachings of Tanis et al..

***Allowable Subject Matter***

6. Claims 33-35 are allowed.
7. The following is a statement of reasons for the indication of allowable subject matter:

Prior art of record does not show or fairly suggest (1) a clock control method comprising (a) phase-adjusting the output clock by an interpolator for outputting a signal whose propagation delay corresponds to division of timing difference of two clock signals to vary ratio of internal division of timing difference of the interpolator to enable outputting of an output clock of a non-integer frequency of the input clock frequency, as called for in claim 33, and (2) a circuit that (a) receives an input clock, and (b) generates an output clock with a phase relative to a reference clock being changed on each cycle of the output clock, wherein (b1) the reference clock is the input clock or a clock derived from the input clock, (b2) a phase of the output clock relative to the reference clock for another cycle next to one cycle is produced by adding to or subtracting the phase of the output clock corresponding the cycle a unit phase differential value  $\Delta\phi$ , (b3) the  $\Delta\phi$  is a predetermined value such that  $n\Delta\phi$  is equal to one clock period ( $t_{CK}$ ) of the reference clock while  $n$  is an positive integer, and (b4) a frequency of the output clock is  $1/(t_{CK}+\Delta\phi)$ , as called for in claims 34 and 35.

***Remarks and Conclusion***

8. Applicant's arguments filed August 28<sup>th</sup>, 2000 have been fully considered but they are not persuasive.

With respect to claims 1 and 28, regarding the Applicant's argument at the end of page 7 and the beginning of page 8, the Examiner disagrees with the Applicant's statement that the limitations claimed in claims 1 and 28, "each cycle of the reference clock produce an output

clock whose phase is shifted by a predetermined amount”, are not taught by Shieh et al., since Fig. 4 of Shieh et al. clearly shows that for each cycle of the reference clock [CLKIN], an output clock [CLKOUT] is produced with the phase being shifted with a predetermined amount. As such, claims 1, 28-29 and 31 remain rejected (see details in 102(e) and 103(a) rejections).

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this action.

#### ***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh M. Nguyen whose telephone number is (703) 305-0414. The examiner can normally be reached on Alternate Mon, Tuesday - Friday from 7:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on (703) 308-4876. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

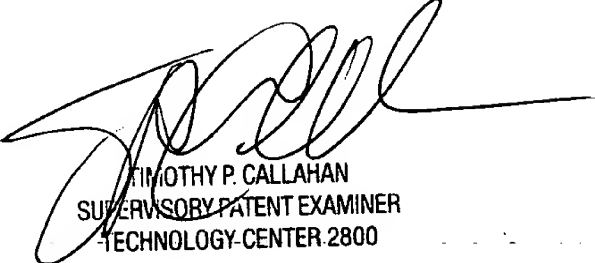
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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Linh M. Nguyen



TIMOTHY P. CALLAHAN  
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